

synthetic resin during molding is subjected to an insulating rust preventing treatment by electrode position coating or by spraying a coating material consisting principally of a special silicate and a composite resin to a thickness smaller than the thickness of the insulating film 7' after molding. By forming such a thin film on the whole outer peripheral surface of the stator pole portion 3, it is possible to diminish the gap between the said outer peripheral surface and the inner peripheral surface of the magnet and hence it is possible to further improve the motor torque. Additionally, by contacting the whole outer peripheral surface of the stator pole portion 3 with the inner wall surface of the mold, the positioning of the stator pole assembly 10 with respect to the mold becomes more accurate, the state of short mold due to eccentricity is remedied and a mechanical accuracy such as coaxialness is improved. These modifications and applications are not excluded from the present invention.

In the present invention, as set forth above, since the stator pole portion of the stator pole assembly is covered with an insulating film, a coil can be wound directly round the stator pole without the need of using a bobbin or the like. Thus, the assembling work becomes simpler and the cost is reduced. Since the insulating layer of the synthetic resin which covers the whole of the lamination stack holds the plates in close contact therewith without forming any gap between adjacent plates and provides a hermetic seal, there is no fear of the plates vibrating and generating noise during use, nor is there any fear of rusting on the planar portion of each plate. Moreover, for example a portion for the mounting of other components such as terminals and a positioning-portion to be used at the time of mounting the stator pole assembly to the substrate can be formed in the stator pole assembly accurately in a simple manner. Consequently, it is possible to assemble the motor in a simple and accurate manner. Further, since all of the exposed portions formed at the time of covering the stator pole with the insulating film of the synthetic resin by molding are covered with an insulating film, it is possible to improve the electric insulation performance.

## Claims

1. A motor structure having a lamination stack stacked with plural plates and also having a stator assembly formed with a component mounting portion, the motor structure comprising:

a lamination stack having soft iron plates which are stacked and pressured with each other;  
a synthetic resin layer binding and covering the lamination stack for holding a pressure between the soft iron plates;  
an overhang portion which continued to the synthetic resin layer having motor positioning

part and motor component supporting part; and an insulating film which covers a portion not covered with the synthetic resin layer of the lamination stack.

2. A motor structure having a lamination stack stacked with plural plates and also having a stator assembly formed with a component mounting portion, the motor structure comprising:

a stator assembly having stator poles and yoke constituted of the lamination stack of soft iron plates which are pressured with each other;  
a synthetic resin layer binding and covering the lamination stack of the stator assembly for holding a pressure between the soft iron plates;  
an overhang portion which continued to the synthetic resin layer having motor positioning part and motor component supporting part; and an insulating film which covers a portion not covered with the synthetic resin layer of the lamination stack of the stator assembly.

3. A motor structure according to claim 2, wherein said lamination stack is pre-assembled with calking

4. A method for manufacturing a motor structure having a laminated structure of plural plates and a stator assembly formed with a component mounting portion, characterized in that a synthetic resin layer is formed on the surface of a lamination stack under the application of pressure from both upper and lower surfaces of the laminated plates.

5. A method for manufacturing a motor structure having a laminated structure of plural plates and a stator pole assembly formed with a component mounting portion, comprising:

a step of pre-setting plural soft iron plates to a mold;  
a step of pressing from both upper and lower surfaces to the plural soft iron plates set in the mold with protrusions;  
a step of injection molding a plastic in the mold, and binding the laminated soft iron plates each other with the synthetic resin layer and consisting an overhang portion which continued to the synthetic resin layer having motor positioning part and motor component supporting part; and a step of covering an insulating film which covers a portion not covered with the synthetic resin layer of the lamination stack of the stator assembly.

6. A method for manufacturing a motor structure according to claim 5, characterized in that a pressing step from both upper and lower surfaces to the plu-

ral soft iron plates in the mold is added from projections formed in the mold.

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Fig. 1

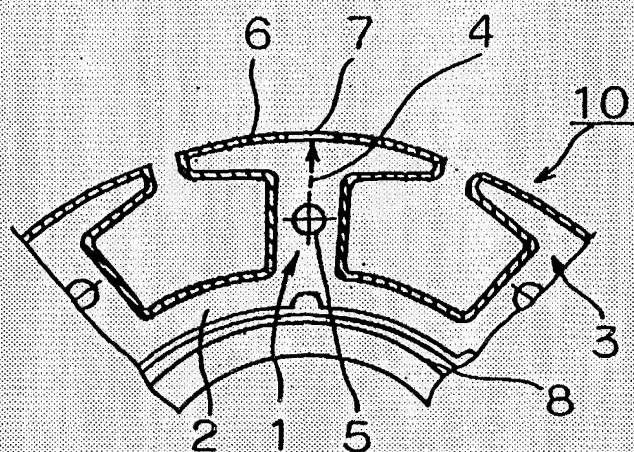


Fig. 2

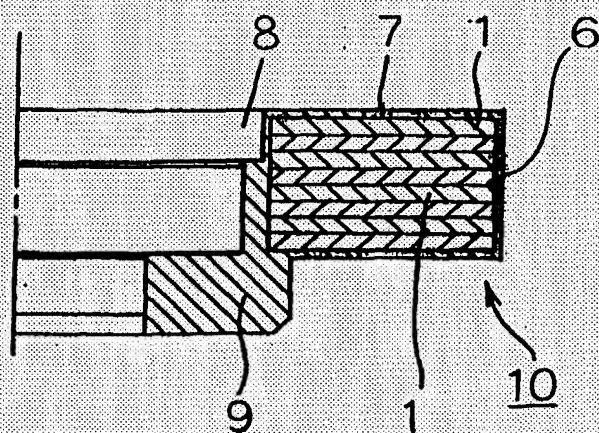


Fig. 3

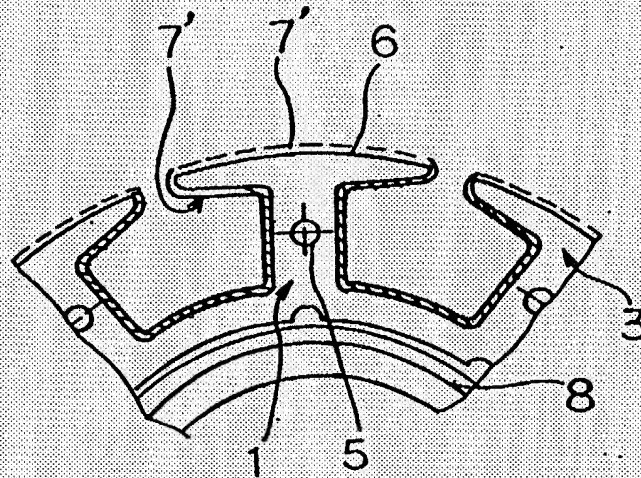


Fig. 4

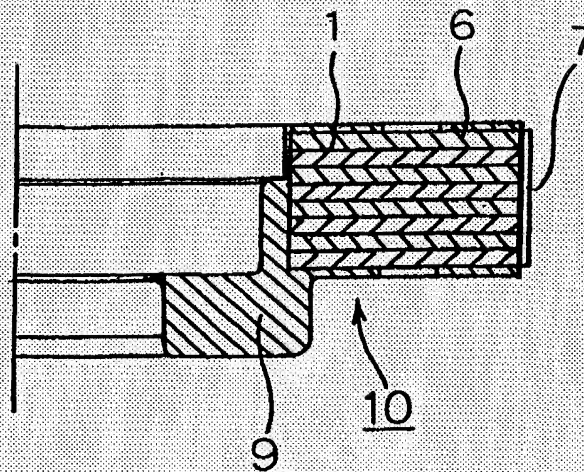




Fig. 5

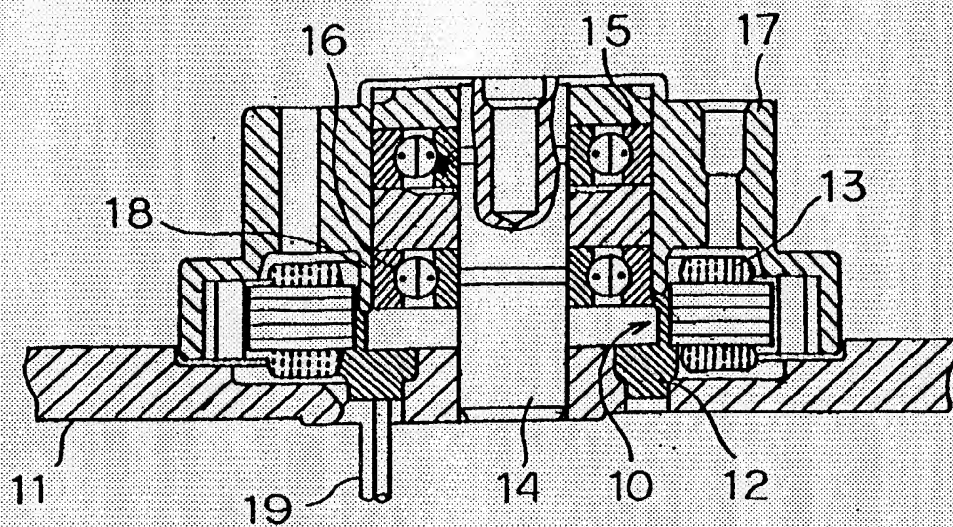


Fig. 6

(PRIOR ART)

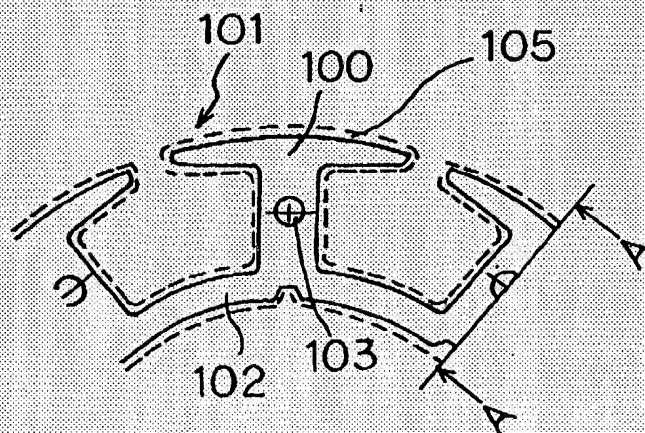


Fig. 7

( P R I O R   A R T )

